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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
MICHOT, ET AL. ) : Examiner: S. Kalafut  
Continuation of ) : Group Art Unit: 1745  
Application No.: 09/390,642 )  
Filed: Herewith )  
For: NOVEL MATERIALS USEFUL : November 9, 2001  
AS ELECTROLYTIC SOLUTES )

Commissioner for Patents  
Washington, D.C. 20231

[This application is a continuation of  
Appln. No. 09/390,642, for which the  
Issue Fee was paid on October 15, 2001]

PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits, kindly amend  
the above-identified application as follows:

IN THE CLAIMS:

Kindly cancel Claims 1-5 and 7-25. Please amend  
Claims 6, 26, 27, and 28 as shown below. A mark-up version  
showing the changes made to the claims is attached hereto for  
the Examiner's convenience.

6. (Amended) An ionic compound having a cation of the onium type with at least one heteroatom comprising N, O, S or P bearing the positive charge and the anion including, in whole or in part, at least one imide ion of the type  $(FX^1O)N^-(OX^2F)$  wherein  $X^1$  and  $X^2$  are the same or different and comprise SO or PF, wherein the compound comprises at least an anion selected from  $Cl^-$ ;  $Br^-$ ;  $I^-$ ;  $NO_3^-$ ;  $M(R^{10})_4^-$ ;  $A(R^{10})_6^-$ ;  $R^{11}YO_2^-$ ;  $R^{11}YONZ^{1-}$ ;  $R^{11}YOCZ^2Z^{3-}$ ; 4,5-dicyano-1,2,3-triazole; 3,5-bis( $R_F$ )-1,2,4-triazole; tricyanomethane; pentacyanocyclopentadiene; pentakis(trifluormethyl)cyclopentadiene; and barbituric acid, and;

-M is B, Al, Ga or Bi;

-A is P, As and Sb;

- $R^{10}$  is a halogen;

- $R^{11}$  represents H, F, alkyl, alkenyl, aryl, arylalkyl, alkylaryl, arylalkenyl, alkenylaryl, dialkylamino, alkoxy or thioalkoxy, each having from 1 to 18 carbon atoms and being unsubstituted or substituted with one or more oxa, thia, or aza substituents, and wherein one or more hydrogen atoms are optionally replaced with halogen in a ratio of 0 to 100%, and eventually being part of polymeric chain;

- Y represents C, SO,  $S=NCN$ ,  $S=C(CN)_2$ ,  $PR^{11}$ ,  $P(NCN)R^{11}$ ,  $P(C(CN)_2)R^{11}$ , and when Y is  $P(NCN)R^{11}$  or  $P(C(CN)_2)R^{11}$ , then  $R^{11}YO_2$ ,  $R^{11}YONZ^1$ , and  $R^{11}YOCZ^2Z^3$  become  $R^{11}YO$ ,  $R^{11}YNZ^1$ , and  $R^{11}YCZ^2Z^3$ , respectively, an alkyl, alkenyl, aryl, arylalkyl, alkylaryl,

arylalkenyl, alkenylaryl having from 1 to 18 carbon atoms and optionally substituted by one or more oxa, thia or aza; a dialkylamino group  $N(R^{11})_2$ ;

$-Z^1$ ,  $Z^2$ , and  $Z^3$  represent independently  $R^{11}$ ,  $R^{11}YO$  or  $CN$ , this group being optionally part of a polymeric chain.

26. (Amended) A method of using an electrolytic composition, comprising the step of:

carrying out chemical or electrochemical reactions involving soluble species in a medium comprising said electrolytic composition,

wherein said electrolytic composition comprises at least one ionic compound of low melting point having a cation of the onium type with at least heteroatom such as N, O, S or P bearing the positive charge and the anion including, in whole or in part, at least one imide ion of the type  $(FX^1O)N^-(OX^2F)$ , in combination with at least another component comprising a metallic salt, a polar polymer and/or an aprotic co-solvent.

27. (Amended) The method according to claim 26, wherein the composition is used as a medium for Diels-Alder, Friedel-Craft, mixed aldolization, condensation, polymerization, nucleophilic substitution, and electrophilic substitution reactions.

28. (Amended) The method according to claim 26, wherein the composition comprises a chiral onium cation allowing enantionselective reactions.

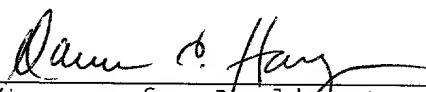
**REMARKS**

This application is a continuation of U.S. Appl. No. 09/390,642. Claims 6, 26, 27, and 28 are pending, with Claims 6 and 26 being independent. Claims 1-5 and 7-25 were canceled by this amendment, and Claims 6, 26, 27, and 28 were amended.

Claims 6, 26, 27, and 28 have been amended to improve their form. In addition, Claim 6 has been amended to correct minor errors contained in the formulas therein.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

  
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MARK-UP VERSION OF THE CLAIMS

6. (Amended) An ionic compound having a cation of the onium type with at least one heteroatom comprising N, O, S or P bearing the positive charge and the anion including, in whole or in part, at least one imide ion of the type (FX<sup>1</sup>O)N<sup>-</sup>(OX<sup>2</sup>F) wherein X<sup>1</sup> and X<sup>2</sup> are the same or different and comprise SO or PF, [A compound according to Claim 1] wherein the compound comprises at least an anion selected from Cl<sup>-</sup>; Br<sup>-</sup>; I<sup>-</sup>; NO<sub>3</sub><sup>-</sup>; M(R<sup>10</sup>)<sub>4</sub><sup>-</sup>; A(R<sup>10</sup>)<sub>6</sub><sup>-</sup>; R<sup>11</sup>YO<sub>2</sub><sup>-</sup>; [R<sup>11</sup>O<sub>2</sub><sup>-</sup>,] R<sup>11</sup>YONZ<sup>1-</sup>; [[R<sup>11</sup>ONZ<sup>1-</sup>],] R<sup>11</sup>YOCZ<sup>2</sup>Z<sup>3-</sup>; [[R<sup>11</sup>YOCZ<sup>2</sup>Z<sup>3-</sup>],] 4,5-dicyano-1,2,3-triazole; [,] 3,5-bis(R<sub>F</sub>)-1,2,4-triazole; [,] tricyanomethane; [,] pentacyanocyclopentadiene; [,] pentakis(trifluormethyl)cyclopentadiene; [,] and barbituric acid, and [barbiturique acid and Meldrum acid derivatives and their substitution products];

-M is B, Al, Ga or Bi;

-A is P, As and Sb;

-R<sup>10</sup> is a halogen;

-R<sup>11</sup> represents H, F, alkyl, alkenyl, aryl, arylalkyl, alkylaryl, arylalkenyl, alkenylaryl, dialkylamino, alkoxy or thioalkoxy, each having from 1 to 18 carbon atoms and being unsubstituted or substituted with one or more oxa, thia, or aza substituents, and wherein one or more hydrogen atoms are optionally replaced with

halogen in a ratio of 0 to 100%, and eventually being part of polymeric chain;

- Y represents C, SO, S=NCN, S=C(CN)<sub>2</sub>, PR<sup>11</sup>, P(NCN)R<sup>11</sup>, P(C(CN)<sub>2</sub>)R<sup>11</sup>, and when Y is P(NCN)R<sup>11</sup> or P(C(CN)<sub>2</sub>)R<sup>11</sup>, then R<sup>11</sup>YO<sub>2</sub>, R<sup>11</sup>YONZ<sup>1</sup>, and R<sup>11</sup>YOCZ<sup>2</sup>Z<sup>3</sup> become R<sup>11</sup>YO, R<sup>11</sup>YNZ<sup>1</sup>, and R<sup>11</sup>YCZ<sup>2</sup>Z<sup>3</sup>, respectively, an alkyl, alkenyl, aryl, arylalkyl, alkylaryl, arylalkenyl, alkenylaryl having from 1 to 18 carbon atoms and optionally substituted by one or more oxa, thia or aza; a dialkylamino group N(R<sup>11</sup>)<sub>2</sub> [N(R<sup>10</sup>)<sub>2</sub>]; -Z<sup>1</sup>, Z<sup>2</sup>, and [to] Z<sup>3</sup> represent [representing] independently R<sup>11</sup>, R<sup>11</sup>YO or CN, this group being optionally part of a polymeric chain.

26. (Amended) A method of using [The use of] an electrolytic composition [according to Claim 7 as a medium for], comprising the step of:

carrying out chemical or electrochemical reactions involving soluble species in a [the said] medium comprising said electrolytic composition,

wherein said electrolytic composition comprises at least one ionic compound of low melting point having a cation of the onium type with at least heteroatom such as N, O, S or P bearing the positive charge and the anion including, in whole or in part, at least one imide ion of the type (FX<sup>1</sup>O)N<sup>-</sup>(OX<sup>2</sup>F), in combination

with at least another component comprising a metallic salt, a polar polymer and/or an aprotic co-solvent.

27. (Amended) The method [A use] according to claim 26, wherein [characterized in that] the composition is used as a medium for [reactions of] Diels-Alder, Friedel-Craft, mixed aldolization [aldolisation], condensation, polymerization [polymerisation], [and for] nucleophilic substitution, and electrophilic substitution reactions [substitutions].

28. (Amended) The method [A use] according to claim 26, wherein [characterized in that] the composition comprises a chiral onium cation allowing enantionselective reactions.